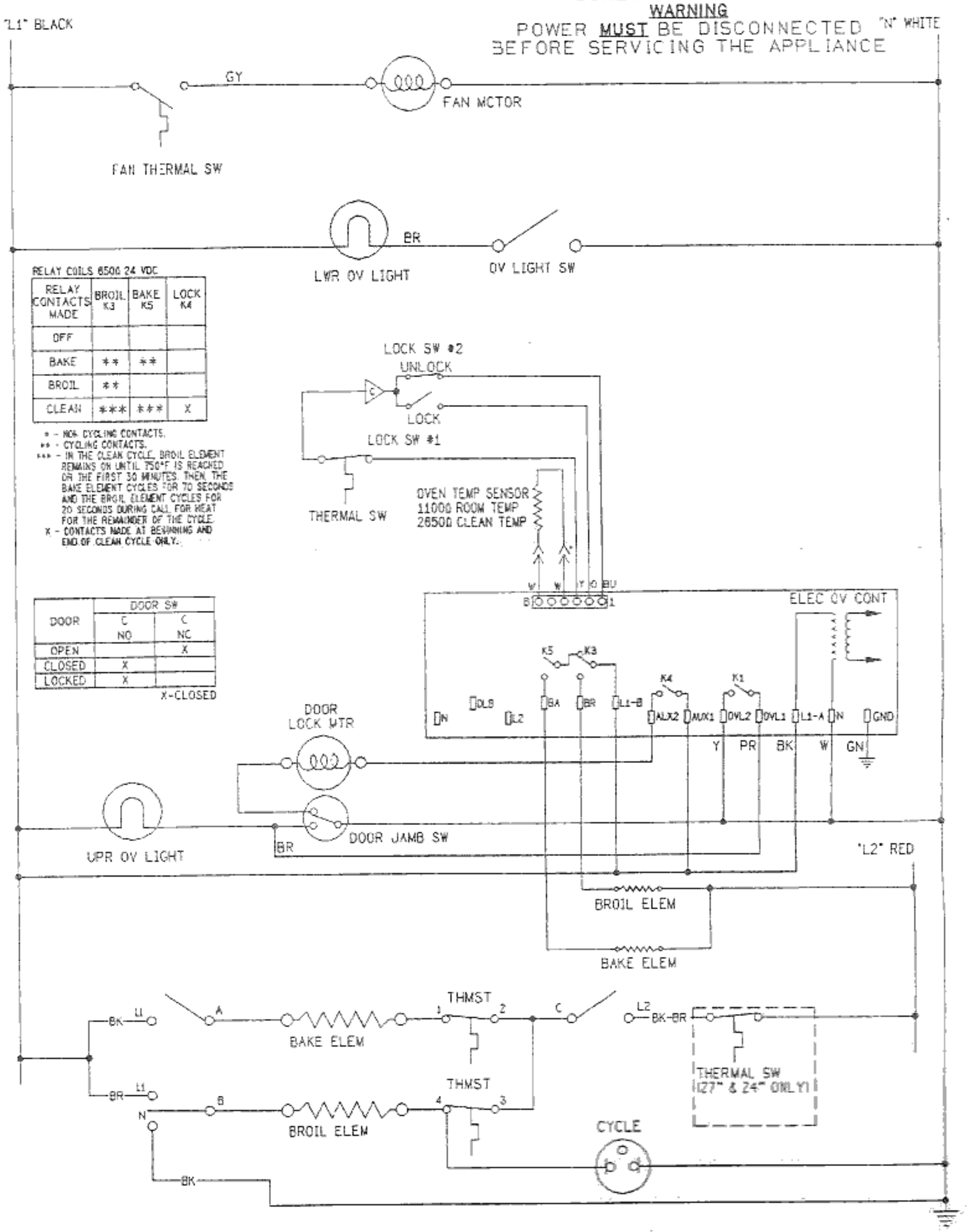
DATA SHEET •

PT.NO. 229C4357-2

SCHEMATIC DIAGRAM
WARNING
POWER MUST BE DISCONNECTED
BEFORE SERVICING THE APPLIANCE



RELAY COILS 6500 24 VDC

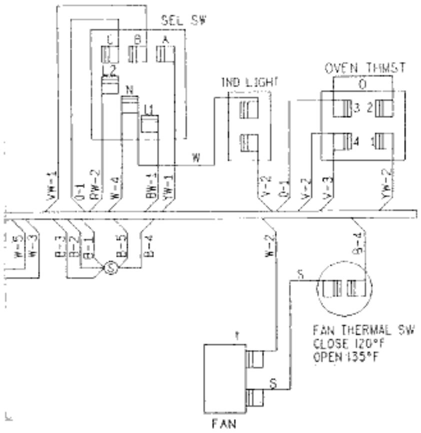
RELAY CONTACTS MADE	BROIL K3	BAKE K5	LOCK K4
OFF			
BAKE	**	**	
BROIL	**		
CLEAN	***	***	X

* - NON CYCLING CONTACTS.
** - CYCLING CONTACTS.
*** - IN THE CLEAN CYCLE, BROIL ELEMENT REMAINS ON UNTIL 750°F IS REACHED OR THE FIRST 30 MINUTES. THEN, THE BAKE ELEMENT CYCLES FOR 70 SECONDS AND THE BROIL ELEMENT CYCLES FOR 20 SECONDS DURING CALL FOR HEAT FOR THE REMAINDER OF THE CYCLE.
X - CONTACTS MADE AT BEGINNING AND END OF CLEAN CYCLE ONLY.

DOOR	DOOR SW	
	C NO	C NC
OPEN		X
CLOSED	X	
LOCKED	X	

X-CLOSED

WIRING DIAGRAM
WARNING
ER MUST BE DISCONNECTED
RE SERVICING THE APPLIANCE



COLOR	SYMBOL
RED	R
WHITE	W
BLACK	B
GREEN	G
YELLOW	Y
ORANGE	O
BLUE	N
GRAY	S
BROWN	C
VIOLET	V
BARE	U

NOTE
ALL LEADS WITH DESIGNATION NUMBERS THAT ENTER COMMON LEAD PATH (▭) MUST BE TRACED TO THEIR TERMINATIONS.

NOTE - 2 DIGIT COLORS
1ST DIGIT WIRE COLOR
2ND DIGIT STRIPE COLOR

MODEL NUMBERS

JRP24BW

IMPORTANT
SERVICE INFORMATION
DO NOT DISCARD

Pub No. 31-13646

229C4048G266

24" ELECTRIC CONVECTION WALL OVEN W/ ERC CONTROL, AND MOTORIZED DOOR LOCK

IMPORTANT SAFETY NOTICE: This information is intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer nor seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

DISCONNECT POWER BEFORE SERVICING

IMPORTANT: RECONNECT ALL GROUNDING DEVICES. All parts of this appliance capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

GROUNDING SPECIFICATIONS:

Ground Path Resistance	0.10Ω	Max.
Insulation Resistance	250KΩ	Min.

ALUMINUM WIRE: CAUTION- This oven power supply cable is recognized for copper wire only, NOT ALUMINUM WIRE. Refer to Installation Instructions for additional details.

INSTALLATION REQUIREMENTS

POWER SUPPLY: This oven must be connected to a supply circuit of the proper voltage and frequency as specified on the rating plate. Wire size must conform to the National Electrical Code or the prevailing local code. The rating plate is located on oven behind oven door.

OVERCURRENT PROTECTION - WALL MOUNTED OVENS:

NEC FUSE RATING	MAXIMUM KILOWATT RATING		
	208V.	236V.	240V.
20 Amp	4.2	4.7	4.8
30 Amp	6.2	7.1	7.2
35 Amp	7.3	8.3	8.4
40 Amp	8.3	9.4	9.6
50 Amp	10.4	11.8	12.0

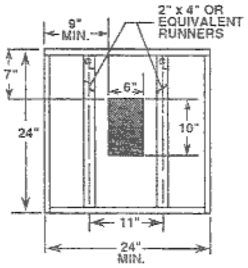
The branch circuit load for one wall-mounted oven or one counter-mounted cooktop is the rating on the nameplate of the appliance. The branch circuit load for a counter-mounted cooktop and not more than two wall-mounted ovens - all supplied from a single branch circuit and located in the same room - shall be computed by adding the nameplate ratings of the individual appliances and treating this total as equivalent to one range.

NOTE: Installation information is for reference only. See installation instructions shipped with product for complete details and before attempting to install.

NOTE: Locate an approved junction box in the suggested location, a minimum of 48" above the runners.

Be sure the oven support is solid enough to support 155 pounds. Also be sure the oven support is level and straight. There is no way to level the oven after installation.

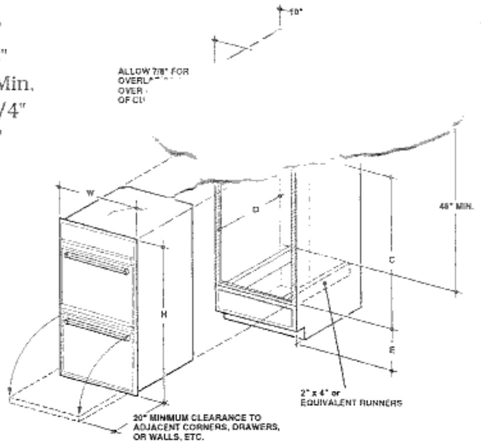
If a solid bottom is used instead of runners, a 6" x 10" rectangle must be cut out of the bottom (See Fig.2) for optimum performance and proper air circulation.



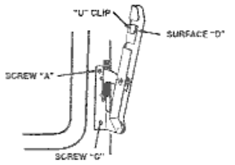
DIMENSIONS

A. Cabinet Width - 24"
B. Cutout Width - 22 1/2"
C. Cutout Height - 48 1/8"
D. Cutout Depth - 23 1/2" Min.
E. Cutout Location - 12 3/4"
H. Overall Height -48 3/4"
W. Overall Width -23 3/4"

- Put the oven into the cabinet and use a 1/8" drill bit to drill holes in the cabinet front through the holes in the oven trim.
- Secure the oven in the cabinet with the screws provided.

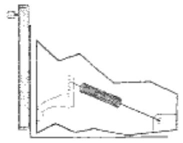

10"
ALLOW 7/8" FOR OVERL
OVER
OF C
W
D
48" MIN.
C
H
E
2" x 4" or EQUIVALENT RUNNERS
20" MINIMUM CLEARANCE TO ADJACENT CORNERS, DRAWERS, OR WALLS, ETC.

DOOR ADJUSTMENTS:



1. **Horizontal Alignment of Door and Control Panel:** Horizontal adjustment is accomplished by adding a "U" clip Part No. WB01K5078 (to raise the door) or by filing the hinge arm (to lower door) at surface "D".
2. **Vertical Alignment of Door to Front Frame:** Vertical changes are accomplished by adding shim washers between the hinge plate and front frame. To increase the gap at the top of the door, place shim at screw "A". To decrease the gap at the top of the door, place shim washer at screw "C".

DOOR SPRING ACCESS



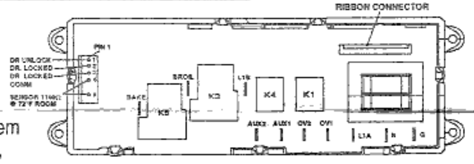
1. Disconnect power and remove mounting screws.
2. Slide oven out far enough to expose the hinge access cover on each side of oven.

DOOR SPRING TENSION can be lessened by moving spring to a lower hinge hole position, or increased by moving spring to a higher position.

ELECTRONIC CONTROL

CAUTION: Components are electrically **HOT** on control when voltage is connected to range.

The Electronc Oven Control system consists of the control, key panel, and door lock assembly.



CONTROL VOLTAGE

TERMINALS	VOLTAGE
L1A & B TO N	120 VAC ALL THE TIME
L1A & B TO BAKE L1A & B TO BROIL	240 VOLTS when oven is not calling for heat (BAKE & BROIL relay contacts open)
OV1 - N	120 VAC when light is off
AUX2 - N	120 VAC locking or unlocking

NOTE: Temperature/Mode Selection Necessary for operation of Relay contacts. **NOTE: Voltage must be present across terminals L1 to N for control to operate.**

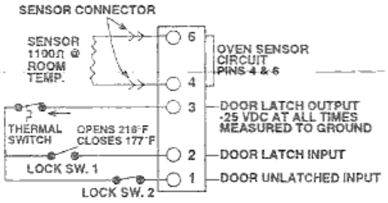
OVEN SENSOR AND DOOR SWITCH OHMMETER TEST

(See "Motorized Door Lock Operation" for door switch function explanation). Remove power from oven. Make resistance measurement from side of sensor & lock switch connector with exposed terminals.

CIRCUIT	TERMINALS	OHMS
Oven Sensor	4 to 6	*1100Ω@Rm Temp. 2600Ω@ Clean Temp.
Door Unlatched	1 to 3 2 to 3	0Ω Open
Door Latched	2 to 3 1 to 3	0Ω Open

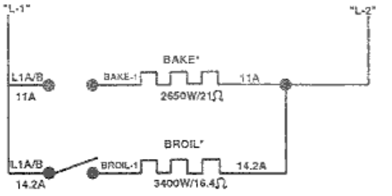
*** If abnormal reading is observed, remove sensor from oven and check at disconnect block. Wiggle leads while checking resistance. If more than 10Ω's replace.**

SENSOR AND LOCK SWITCH CONNECTOR

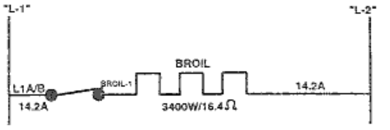


OVEN CIRCUITS

BAKE/TIME BAKE/CLEAN (SEE NOTE)



BROIL & CLEAN(SEE NOTE)



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*** BAKE AND BROIL UNITS CANNOT BE ON AT THE SAME TIME.**

- **BAKE/TIME BAKE** - Bake and broil units operate sequentially during Preheat. Broil unit is on approximately 25% of the time during the balance of the Bake operation with approximately one minute dead time between units.
- **CLEAN** - Broil unit only on during the first thirty minutes or until oven reaches 750°F. During the balance of the Clean operation, the oven will cycle between the Bake and Broil units with one second dead time between units while calling for heat.

DATA SHEET •

Key Panel Test

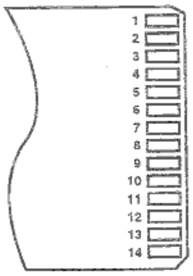
Depress each pad on the Key Panel followed by the CLEAR/OFF pad. If the Key Panel is functioning properly the following should occur:

- **Bake, Broil, Clean, Timer, Clock, and Cook Time Modes** - Audible tone plus display showing mode of operation selected.
- **Clear/Off** - Audible tone and display shows time of day.
- **Temp, Hour, Min Pad** - No audible tone. Can only be used after another function has been selected.

If some of the pads work and some don't, the problem is probably the key panel. To verify that the Key Panel is the problem, perform the Ohm Test. If the Ohmmeter reads ∞ Ω when depressing the pad or shows some resistance without depressing the pad the key panel is bad.

Ohmmeter Test

Set Ohmmeter on high scale. Connect leads to ribbon cable as indicated in chart for each function. Depress function pad. Meter should read less than 5000 Ω if the switch contact is working.



FUNCTION	CONDUCTORS
BAKE	12 TO 14
BROIL	11 TO 14
CLEAN	9 TO 14
OVEN LIGHT	9 TO 13
COOKING TIME	11 TO 13
DELAY START TIME	12 TO 13
KITCHEN TIMER	10 TO 14
CLOCK	10 TO 13
CLEAR/OFF	3 TO 4
START	1 TO 2
UP TEMP	6 TO 13
DN TEMP	6 TO 14
UP HOUR	7 TO 13
DN HOUR	7 TO 14
UP MIN	8 TO 13
DN MIN	8 TO 14

NOTE: Replacement touch pads come as part of the Control panel.

SPECIAL FUNCTIONS:

The control has a section that can be entered to change how the control will work.
To enter this section:
Press and hold **BAKE and BROIL** pads for 2 (two) seconds and "**SF**" appears in display. Select the area to change. When the change has been made, press **START** to return to Time of Day.

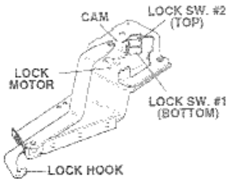
- **End of Cycle Tone** - Press **TIMER** pad. *Display shows **Con Beep** when control is set for Continuous End of Cycle Tone or Beep when set for Non-Continuous.
- **°F or °C** - Press **Broil** pad. *Display will show either F° or C°. Press **Broil** pad again to change.
- **12 hour, 24 hour, or blank out Time of Day Clock** - Press **Clock** pad. *Display will show **12 hr, 24 hr, OFF** for blank clock. Press again to change.
- **Cook & Hold** - used only with Time Bake or Delay Bake functions - Press **Cooking Time** pad. *Display will show either **HLD On** or **Hld Off**. Press again to change.
- **Child Lockout** - Press **CLEAN**. *Display will show **Loc ON** (when any heating functions are tried display will show **OFF**), press **CLEAN** again for **Loc Off**, control unlocked.
- **12 Hour Shut Down** comes set to shut down after 12 hours of continuous operations; this can be eliminated - Press Delay Start pad. *Display will show **No Shdn.** To turn back on, press Delay Start pad again and display will show **12 Shdn.**
- **Sales Mode,** special feature added for sales floor demonstration - Press Clock & Timer pads at the same time. *Display will start to cycle through the different modes of operation.

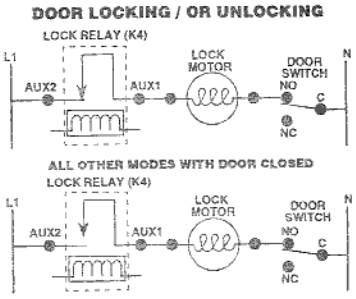
MOTORIZED DOOR LOCK

The motorized door lock assembly is located above the oven. The assembly consists of a lock motor cam and switch assembly, lock hook, and mounting plate.

MOTORIZED DOOR LOCK OPERATION:

The lock motor is energized when the control is set for Clean and Clean Time selected. The "K4 Relay" contacts will close and complete the circuit that supplies the voltage to the lock motor.




DOOR LOCKING / OR UNLOCKING

ALL OTHER MODES WITH DOOR CLOSED

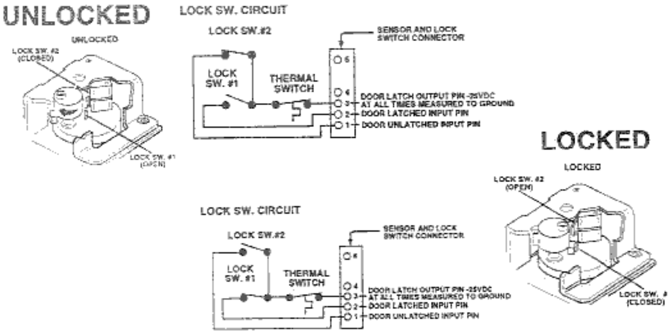
NOTE: Display of Control will flash "**LOCK DOOR**" if the door switch is in the "**C**" to "**NC**" position.

- The word "**LOCK DOOR**" will flash on and off in the display while the lock motor is in motion. When the door is locked the word "**LOCKED DOOR**" remains illuminated in the display.

CAM - The cam on the motor performs two functions:

1. Positions the lock hook in the door to prevent opening during clean operation.
2. Operates the two Lock Switches which tell the control if the door is locked and ready for clean operation.

NOTE: When door is either being locked or unlocked both lock switches 1 & 2 will be in the open position.


UNLOCKED

LOCKED

ERC FAILURE CODES

<table>
<tr><th>FAILURE CODE</th><th>MEANING</th><th>CORRECTION</th></tr>
<tr><td>-F0-
-F1-
-F7-</td><td>Stuck key pad. May mean relay is turned on.</td><td>Determine if problem is with the Key Panel or Control by:
1. Pushing CLEAR/OFF pad,</td></tr>
<tr><td colspan="3">2. Disconnecting Ribbon Cable from control and waiting at least one minute to see if Code recurs.
• If code recurs, problem is in the control. Replace control.
• If code does not recur problem is with the Key Panel.</td></tr>
<tr><td>-F2-
Also see fan thermal switches</td><td>Indicates that oven is over temperature in one of the following modes within either a cooking or clean mode of operation.
• Control senses oven temperature above 615°F with the door circuit in the unlock mode.
• Control senses oven temperature above 915°F with the door in the door locked mode.</td><td>• Look for welded relay contacts. (Heating elements on in off mode).
• Look for open thermal switch in lock motor circuit. Switch is normally closed and will open if area overheats due to fan not operating. Look for cause - Fan thermal switch not closing, fan stalled, etc.
• Look for high resistance in the sensor circuit due to high contact resistance (poor terminal crimp, deformed terminals, loose connection inside sensor tube) or intermittent solder joint.
• Electrical noise interference in the sensor circuit (Ham radio, cordless phone, etc.).</td></tr>
<tr><td>-F3-
-F4-</td><td>Open or shorted sensor (circuit). Could be a result of contamination on terminals or pinched wire in sensor circuit, cold solder joint on control.</td><td>• Disconnect power to range.
• Measure sensor resistance at control connector (take care not to damage terminals in block) - Should read 1100Ω at room ambient (approx. 72°F).</td></tr>
<tr><td colspan="3">• Measure each sensor lead from connector block to ground. If shorted, look for pinched or cut wire in sensor circuit.
• Check connector terminals - Look for deformed or corrosion on terminals. Repair or replace.
• If all above is ok replace control.</td></tr>
<tr><td>-FC-</td><td>Problem with door lock circuit such as pinched wires between control and door lock switches on motorized lock circuits.</td><td>Check wiring and test operation of switches.</td></tr>
<tr><td>-FF-</td><td>Loss of door motor safety circuit.</td><td>Replace control.</td></tr>
<tr><td>-F5-</td><td>Loss of relay drive circuit</td><td>• Check sensor circuit for intermittant high resistance..</td></tr>
<tr><td colspan="3">• Press Clear/Off and reprogram control. If -F-5 code reappears, replace control. **(DO NOT REPLACE LOCK MOTOR.)**</td></tr>
<tr><td colspan="3">**NOTE:Connections can be intermittent due to a corrosive buildup between the connection to the terminals, or by being bent by the insertion of a probe, etc.**</td></tr>
</table>

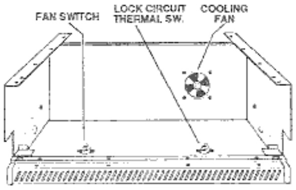
OVEN CALIBRATION

Testing has shown that this oven has the best cooking performance at a control setting of 350°F when the **AVERAGE** center oven temperature is between 340°F and 380°F. Customers may change the average center oven temperature by ± 35°F to satisfy their own cooking needs.

To change:

- Press and hold **Bake & Broil** pads until **"SF"** appears in display.
- Press **Bake** pad to enter oven calibration mode. -00 or a number between ±35°F will be displayed.
- Press **TEMP** increase or decrease pads to change average oven temperature. Use **Bake** pad to switch between + or - settings.
- Press **START** to return to Time of Day.

THERMAL SWITCH



The thermal switch is in the lock switch circuit in the normally closed position. The switch is mounted on the rear wall of control area.

The switch opens at 216°F and closes when temperatures cool below 177°F.

If the thermal switch opens during:

1. Oven Temperature Below 600°F.

a. Bake & Broil - the heating element will cycle "OFF", the lock motor will run and the word lock will appear in display along with the cooking function and temperature. "ON" will disappear from display.

- If the thermal switch closes while the lock motor is in the unlocking phase of operation the unit will resume cooking.
- If the thermal switch closes while the lock motor is in the locking phase of operation the program will be cancelled and return to time of day.

b. Clean Mode -Program is cancelled when thermal switch opens. Lock Motor will run.

2. Oven Temperature Above 600°F. Any mode of operation control will go to -F2- failure code.

When this condition exists, check the fan operation (look for obstructions), inspect oven installation (make sure grill areas are not blocked), oven insulation and lock circuit.

FAN SWITCH

The fan switch is a resetable switch located on the vent box cover. The switch will turn the fan on in any mode of operation when it detects a temperature above 135°F. The fan will turn off once it has cooled below 120°F.

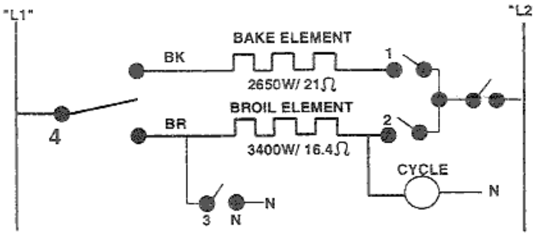
LOWER OVEN THERMOSTAT:

1. INTERNAL CONSTRUCTION:

   Within the thermostat there are two separate sets of contacts that are opened and closed simultaneously by expansion and contraction of the oil within the oil filled capillary. One set of contacts appy power (L1) to the BAKE circuit and the other set applies power (L1) to the BROIL circuit and indicator light.

2. EXTERNAL CONSTRUCTION:

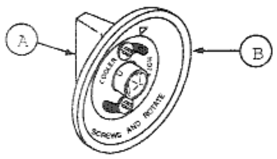
   The switches on the outside of the switch body determine whether bake or broil has been selected. As the switch is rotated counter-clockwise, the bake function is first selected. In the bake mode, terminals 4-BK and 3-N are closed. Fully rotated to the broil mode, terminals 4-BR are closed. See Figure Below.



TEMPERATURE CALIBRATION:

Note: Calibration adjustments are made by moving the knob skirt. DO NOT make any adjustments to the thermostat itself.

IMPORTANT: Before making any temperature adjustments, be sure the oven thermostat capillary bulb is properly positioned in the bulb mounting clips. If the capillary bulb is out of position and contacts oven wall, calibration will be incorrect. An unusually dirty capillary bulb will also affect thermostat calibration.



MOVE TOWARD "A"
Makes Oven Cooler

MOVE TOWARD "B"
Makes Oven Hotter

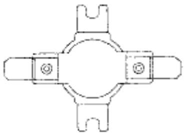
THERMAL CUT-OUT SWITCH:

A self-resetting, disc type thermal cut-out switch is mounted to the rear of the oven. The switch will open the L2 leg of the power to the heating elements in the event of an over temperature condition.

The switch will open when the panel it is mounted to reaches approximately 250°F and will close as the panel cools to approximately 220°F.

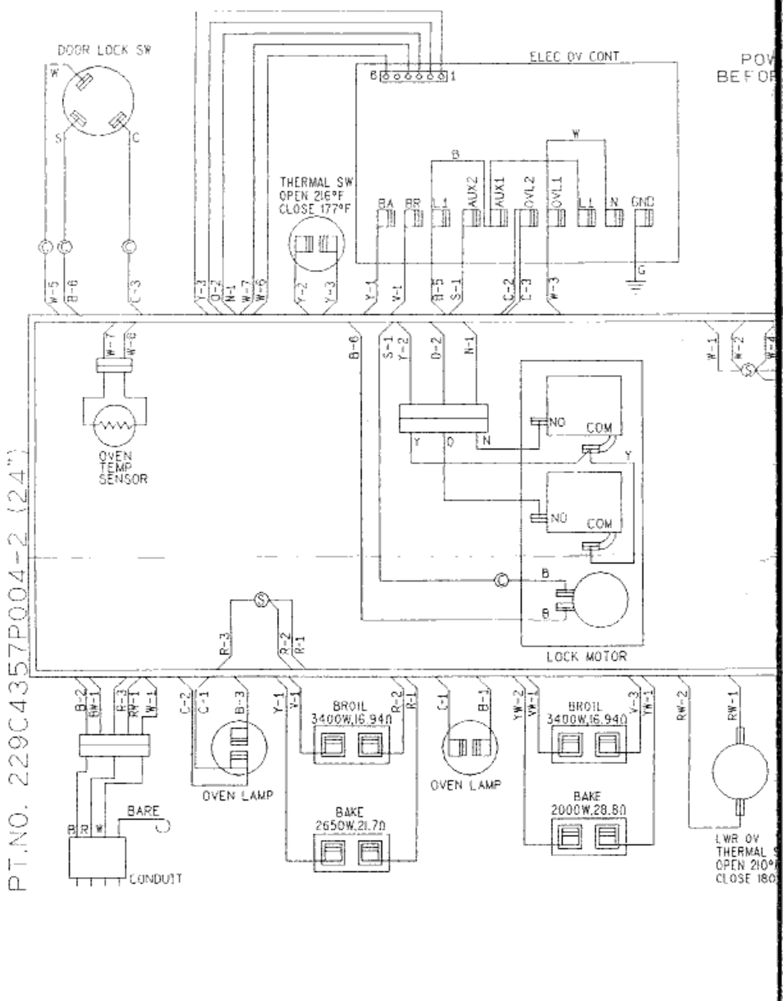
There is no indication to the customer when the switch opens or closes. A problem with the switch would most likely be indicated by poor cooking performance.

THERMAL CUT-OUT SWITCH



KENMORE ONLY- 24" Wall Oven Self Clean

Part Description	Repair Part Number
Electron Range Control	WB27K5299
Control Panel-White	WB36T10069
Control Panel-Black	WB36T10070
Fan Assembly	WB26K5061
Lock Assembly	WB30K5030
Sensor Assembly	WB21X5301
Oven Door Switch	WB24K5061
Bake Element	WB44T10007
Broil Element	WB44K5009
Hinge Asm-Right	WB14K5006
Hinge Asm-Left	WB14K5007



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